

and his rooms in college were a regular centre of attraction to his friends and former pupils. He was devoted to athletic exercises, and especially to cycling.

He was one of the observers in the Transit of *Venus* Expedition, 1874, occupying the station of Waimea, in the Sandwich Islands, and his successful observations show him to have possessed considerable astronomical knowledge.

He was elected a Fellow on 1874 May 8, but contributed no papers to the Society.

GEORGE KNOTT was born on 1835 October 30, and was the only son of George Knott, Esq., of Bohun Lodge, East Barnet, a well-known connoisseur of pictures, who died in 1844. At nearly the same time our late Fellow lost his mother. His early education was conducted by private tuition, but he spent two years at University College, London, and graduated at London University (B.A. in 1856, LL.B. in 1857), in the affairs of which he always took a lively interest. On attaining his majority, and coming into a sufficient fortune, he settled at Cuckfield in Sussex, and married in 1859. Here he spent a life chiefly devoted to astronomy, until the time of his death, which occurred very suddenly in October last. An accidental chill developed into pleurisy on Monday, October 1, into inflammation of the lungs on the following Friday, and on Monday, October 8, he died. He leaves a widow, but no family.

Mr. Knott's life was devoted mainly to astronomy, though he kept himself acquainted with cognate sciences and rendered unobtrusive aid to benevolent and religious institutions. His interest in his favourite science was early awakened by the late Dr. Drew, F.R.A.S., of Southampton, and his first telescope was an excellent 4-inch Gregorian reflector which had belonged to his father. In 1859 he purchased a 7 $\frac{1}{3}$ -inch equatorial and a transit circle, and commenced systematic observations of double and variable stars and planets with the former, and of various objects with the latter; but after a short time observations with the meridian instrument were restricted almost entirely to transits of the Sun for clock error. The observations of variables were maintained with marvellous regularity and continuity through most of the thirty-four years of Mr. Knott's working life, and his double-star observations until 1873, when he removed from his residence, Woodcroft, and built himself a new house with observatory attached, as near as possible to his old home. The building occupied a year or two, during which he lived in a smaller dwelling, and was practically cut off from observing; and this interval he employed in arranging for press his double-star observations, which were accordingly printed in vol. xliii. of our *Memoirs*. The year 1875 saw the telescope and transit re-erected at the new house, Knowles Lodge, and the interrupted watch on variable stars was resumed; but no serious work on double stars was again under-

taken, though a few experimental measures (chiefly for personality) are recorded. All the observations are entered with the most scrupulous neatness in a journal, and transferred to ledgers. For the variable stars there are twenty-three such ledgers, each devoted to an individual star, all of which could be put directly into the printer's hands.

A continuous series of observations of this kind, by the same observer, and with the same instrument on the same plan, is probably unique. This unswerving devotion to a particular line of research, which is at least exceptional in the case of those who work at astronomy for amusement, is the more remarkable when we remember that Mr. Knott saw the introduction of the spectroscope and of the photographic plate without being tempted away from his chosen work. And yet this persistence was far from being intolerant. So far as the spectroscope would help the particular work he was engaged on, Mr. Knott welcomed it; and notes on the spectra of the variables occur in many places in the "Remarks" to his observations. Had his time not been fully employed with the eye-observations, he would doubtless also have supplemented them by photographic observations; but as it was, the undoubted fascinations of new methods were resolutely neglected in the interests of continuity.

This note would be incomplete without a reference to the excellent astronomical library collected by Mr. Knott.

From a series of letters from the Rev. W. R. Dawes to Mr. Knott during the years 1857-1866, which have been carefully preserved, several interesting facts are made apparent. It was through Mr. Dawes that Mr. Knott obtained his telescope, and the first letter (dated 1857 September 17), obviously in reply to the first inquiries on this subject, reminds us in a striking manner of the instrumental progress made since that time. "I do not know," says Mr. Dawes, "of any large object-glass fit for your purpose to be had at present. The 8-inch I have now in use would no doubt suit you exactly, but it is already disposed of. . . . Mr. Alvan Clark, of Boston, who made it, is now constructing for me a telescope of shorter focus and a complete equatorial mounting. In the meanwhile, as my Munich equatorial mounting will be deprived of the telescope it at present carries, I have requested Clark to send me a 7-inch glass in tube &c. to fit the mounting, and if a friend of Admiral Smyth's, to whom I have promised the first offer of it, should decline it, the whole may be at your service if it would suit you."

This was the telescope which Mr. Knott ultimately obtained, and the correspondence thus opened continued with great regularity to the time of Mr. Dawes' death in 1866. The two enthusiastic observers constantly interchanged notes on their observations—chiefly about double stars. Though he had done excellent work in stellar photometry, Mr. Dawes apparently did not share Mr. Knott's affection for the variables. In 1863 October he writes: "I am heartily glad that you have not relin-

quished double-star measuring, for which, as you justly say, your O.G. is so admirably suited. Indeed, you will not wonder that, as I consider you to possess in a very high degree the essential qualities of an accurate observer of these objects, I have felt not a little jealous of such a telescope and such an observer being mainly employed on variable stars, on which, to say nothing of the observer, a vastly inferior telescope would do as well." Thus the choice of his particular line of work was entirely Mr. Knott's own, for certainly no other astronomer exercised the same influence on his work as did Mr. Dawes. In later years he corresponded chiefly with other variable-star observers (Baxendell, Birmingham, Espin, Gore, E. C. Pickering, Webb, Yendell and others) about their common difficulties. Many of these letters, too, are of interest.

It only remains to add that Mrs. Knott has not only placed these observations and letters at the disposal of the Society, but has signified her desire to contribute in a most generous manner towards the expenses of publication of the observations. Mr. Knott wrote during his lifetime more than 30 short papers, besides the double-star memoir above mentioned, but the greater part of the variable-star observations will be published for the first time.

Mr. Knott was proposed by Mr. Dawes and elected a Fellow of this Society on 1860 November 9. It is noteworthy that at this time the two friends who had corresponded so intimately had never met. It is plain from the letters that several urgent invitations were exchanged, but to no purpose until some years later. This devotion did not, however, prevent Mr. Knott from attending the meetings of this Society with the greatest regularity, although each visit entailed a midnight drive of two miles on his return to Cuckfield. He was elected on the Council first in 1868, and was a member of it with few interruptions from that time onwards.

JAMES LEIGH was born at Liverpool on 1838 June 1. His professional career as a banker commenced at Liverpool, and after being for some years at Warrington he removed in 1873 to Birmingham, and from 1876 to the time of his death was manager of the Metropolitan Bank of England and Wales. He married in 1863, and leaves two daughters and a son.

He was thoroughly engrossed in his work, and was rewarded by considerable success; his unsparing devotion unfortunately hastened his death. He rarely took part in public affairs, though he occasionally wrote to the Press on financial matters. His spare time was chiefly given to the study of natural science, especially astronomy, entomology, and ornithology. His most active period of astronomical work was in the years 1863-73, when he resided first at Rockferry, Cheshire, and afterwards at Penketh, Lancashire; and he regularly and systematically observed the Moon, noting occultations and taking micrometrical measurements of lunar craters and of double stars with an